

Message

From: LaRue, Steven [LaRue.Steven@epa.gov]
Sent: 7/29/2016 12:46:02 PM
To: Krieger, Jackie [Krieger.Jackie@epa.gov]; Burch, Julia [Burch.Julia@epa.gov]; Sutton, Tia [sutton.tia@epa.gov]
CC: Hyde, Courtney [Hyde.Courtney@epa.gov]; Walters, Margaret [Walters.Margaret@epa.gov]; Wolfe, Michael [Wolfe.Michael@epa.gov]; Lubetsky, Jonathan [Lubetsky.Jonathan@epa.gov]; Niebling, William [Niebling.William@epa.gov]; Haley, Mike [Haley.Mike@epa.gov]; Bullard, Pamela [Bullard.Pamela@epa.gov]
Subject: Revisions to SAC/HEC QFRs re: Aircraft and LD GHG
Attachments: SAC MUR-002_aircraft ghg_FINAL.DOCX; HEC WHI-028-032_Fuel Economy_FINAL.DOCX

All,

Please update the attached QFRs to reflect the recent announcements of the draft TAR for the light-duty GHG rule and the endangerment finding for GHGs from aircraft. From the four FY 2017 budget hearings last spring, only QFRs from the House Appropriations Committee have been transmitted to the Hill. We will continue to review previous submissions from HEC/SAC/SEPW to ensure that no other QFRs need revised.

Thanks, and please let us know if you have any questions.

- Steve
202.564.1304

Message

From: Samulski, Michael [samulski.michael@epa.gov]
Sent: 10/27/2015 3:09:37 PM
To: OTAQ Materials [OTAQMaterials@epa.gov]
CC: Charmley, William [charmley.william@epa.gov]; Iffland, JoNell [Iffland.JoNell@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Thrift, Mike [thrift.mike@epa.gov]; Orlin, David [Orlin.David@epa.gov]; Williams, Melina [Williams.Melina@epa.gov]; Audette, Lucie [audette.lucie@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]
Subject: For Chris's review: ICAO briefing for Administrator
Attachments: ICAO Aircraft CO2 Std_Gina briefing 10-27-15.pptx

Here are the draft materials for our briefing with Gina on Friday regarding Aircraft CO2. Note that we have a pre-brief with Janet on Thursday.

Mike

Michael Samulski
U.S. Environmental Protection Agency
Office of Transportation and Air Quality
Director, Large Marine and Aircraft Center
1 (734) 214-4532
samulski.michael@epa.gov



[SEQ CHAPTER \h \r 1] *Internal Meeting/Briefing Request Form for
Administrator Gina McCarthy*

Today's Date: October 5, 2015

Requesting Office: OAR - OTAQ

Title of the Meeting: **Ex. 5 - Deliberative Process**

Ex. 5 - Deliberative Process

Role of the Administrator: To be briefed; provide final decision on appropriate EPA position; prep for call or meeting with Secretary Fox

Ex. 5 - Deliberative Process

Possible dates for the meeting: Request Meeting for the Week of October 12, 2015.

Is the meeting urgent and if so, why?: Yes. Final US position must be developed by late October. White House has requested a meeting in the next week to discuss.

Requested Time Length: 1 hour

EPA Staff (Required):

Chris Grundler, Bill Charmley, Ben Hengst, Michael Samulski, Bryan Manning (OAR/OTAQ)

NOTE: All OA Special Assistant's must be CC on all requests to the Administrator's Scheduling Office. All briefing material must be sent to [[HYPERLINK "mailto:briefings@epa.gov"](mailto:briefings@epa.gov)] 72 hours before the scheduled meeting. Failure to comply will result in the meeting being rescheduled at the Director of Scheduling and Advance's discretion.

EPA Staff (Optional):
Gwen Stewart, Jonell Iffland (OAR/OTAQ)

External Participants: None

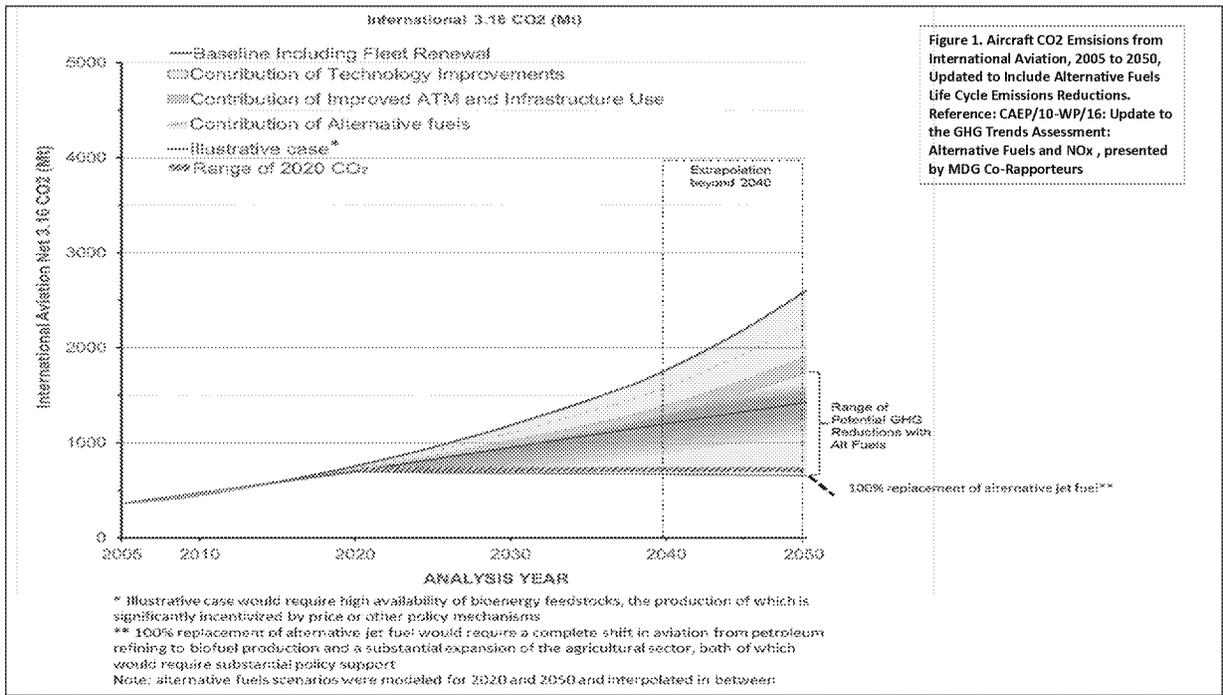
Teleconference Required?: Yes

Video Conference Required?: Yes – RM. C-174 DOD AA

Point of Contact for the Meeting: Emily Atkinson, 202-564-1850

NOTE: All OA Special Assistant's must be CC on all requests to the Administrator's Scheduling Office. All briefing material must be sent to [[HYPERLINK "mailto:briefings@epa.gov"](mailto:briefings@epa.gov)] 72 hours before the scheduled meeting. Failure to comply will result in the meeting being rescheduled at the Director of Scheduling and Advance's discretion.

**Information for Boeing Meeting
January 8, 2016**



Deliberative Process / Ex. 5

Deliberative Process / Ex. 5

EPA Finalizes First Steps to Address Greenhouse Gas Emissions from Aircraft Engines

In this final action, the Administrator makes two findings under section 231(a)(2)(A) of the Clean Air Act (CAA) that: (1) concentrations of six well-mixed greenhouse gases (GHGs) in the atmosphere endanger the public health and welfare of current and future generations (the endangerment finding), and (2) GHGs emitted from certain classes of engines used in certain aircraft are contributing to the air pollution—the mix of those six GHGs in the atmosphere—that endangers public health and welfare.

The Administrator is making these findings using the same definitions of the “air pollution” and “air pollutant” as was used under CAA section 202(a)(1) regarding motor vehicle GHG emissions, namely the combined mix of six key well-mixed GHGs: carbon dioxide (CO₂), methane, nitrous oxide, hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆). These six well-mixed GHGs are considered as a combined group and together are the root cause and best understood drivers of human-induced climate change and the resulting impacts on public health and welfare. The EPA is not at this time proposing or finalizing aircraft engine GHG emissions standards.

Aircraft GHG Emissions

The U.S. transportation sector is a significant contributor to total U.S. and global anthropogenic GHG emissions. Aircraft remain the single largest GHG-emitting transportation source not yet subject to GHG standards in the U.S.

U.S. aircraft (this includes all domestic flights and international flights originating in the U.S.) emit:

- 12 percent of GHG emissions from the transportation sector in the U.S.
- 3 percent of total U.S. GHG emissions.
- 29 percent of all global aircraft GHG emissions.
- 0.5 percent of total global GHG emissions

Scope of Covered Aircraft

The contribution finding concludes that GHG emissions from certain classes of engines used in “U.S. covered aircraft” contribute to the air pollution that endangers public health and welfare. The EPA defines “U.S. covered aircraft” to be subsonic jet aircraft with a maximum takeoff mass (MTOM) greater than 5,700 kilograms and subsonic propeller driven aircraft (e.g., turboprops) with a MTOM greater than 8,618 kilograms. Examples of covered aircraft include smaller jet aircraft such as the Cessna Citation CJ3+ and the Embraer E170, up to the largest commercial jet aircraft –the Airbus A380 and the Boeing 747. Examples of covered turboprop aircraft include larger turboprop aircraft, such as the ATR 72 and the Bombardier Q400. The scope of covered aircraft aligns with the applicability thresholds (based on MTOM) for the international aircraft CO₂ standard.

The Administrator is not at this time making a contribution finding for GHG emissions from engines not used in covered aircraft (i.e., those used in smaller turboprops, smaller jet aircraft, piston-engine aircraft, helicopters and military aircraft). Examples of aircraft that are not covered include smaller turboprop aircraft, such as the Beechcraft King Air 350i, and smaller jet aircraft, such as the Cessna Citation M2.

This contribution finding for engines used in U.S. covered aircraft results in the vast majority (89 percent) of total U.S. aircraft GHG emissions being included in this determination.

Findings Background

In 2009 the EPA issued endangerment and contribution findings that GHG emissions from new motor vehicles cause or contribute to the air pollution that causes climate change endangering public health and welfare. In this final action under CAA section 231(a)(2)(A), EPA relies primarily on the extensive scientific and technical evidence in the record supporting the 2009 Endangerment Finding under section 202(a) of the CAA, including the major, peer-reviewed scientific assessments used to address the question of whether GHGs in the atmosphere endanger public health and welfare, and on the analytical framework and conclusions upon which the EPA relied in making the 2009 finding. This final finding accounts for the EPA’s careful consideration of the scientific and technical record for the 2009 Endangerment Finding, the new, major scientific assessments issued since closing the administrative record for the 2009 Endangerment Finding, and consideration of public comments.

The Clean Air Act and Aircraft Regulation

The EPA and the Federal Aviation Administration (FAA) traditionally work within the standard-setting process of the International Civil Aviation Organization’s (ICAO) Committee on Aviation Environmental Protection (CAEP) to establish international emission standards and related requirements, which individual nations later adopt into domestic law. At its meeting in February of 2016, ICAO/CAEP agreed on the first-ever international standards to regulate CO₂ emissions from aircraft. The ICAO Assembly will now seek to approve these CO₂ standards in October 2016, and then ICAO will formally adopt these standards in March 2017.

The EPA's final endangerment and cause or contribute findings for aircraft GHG emissions do not prejudice what future EPA standards will be for engines used in covered aircraft. Instead, the EPA's final findings are in preparation for a future domestic rulemaking process to adopt future GHG standards. These findings trigger EPA's duty under the Clean Air Act to promulgate emission standards applicable to GHG emissions from the classes of aircraft engines included in the contribution finding. Any such future proposed domestic regulatory actions would be open to the appropriate public comment and review, providing opportunity for stakeholders and the public to provide input.

For More Information

You can access the final findings on EPA's Office of Transportation and Air Quality (OTAQ) website:

www.epa.gov/otaq/aviation.htm

**Aircraft Endangerment Proposal and ANPRM
Roll-out and Coms
Agenda, April 20, 2015**

- Update on package status
 - Schedule for passback
 - Target signature date

- Roll-out plan
 - Materials
 - Statement
 - Q&A
 - Key stakeholder and anticipated reactions
 - Announcement
 - Press call? (script)
 - Public hearing

- Messages
 - Information Paper roll-out

To: Manning, Bryan[manning.bryan@epa.gov]; maryalice.locke@faa.gov[maryalice.locke@faa.gov]; Ralph.Iovinelli@faa.gov[Ralph.Iovinelli@faa.gov]; dedoussi@mit.edu[dedoussi@mit.edu]; byutko@mit.edu[byutko@mit.edu]; James.Hileman@faa.gov[James.Hileman@faa.gov]; morrisab@mit.edu[morrisab@mit.edu]; pwolfe@mit.edu[pwolfe@mit.edu]; aashok@mit.edu[aashok@mit.edu]; rjhans@mit.edu[rjhans@mit.edu]; Sarofim, Marcus[Sarofim.Marcus@epa.gov]; Jantarasami, Lesley[Jantarasami.Lesley@epa.gov]; Davidson, Ken[Davidson.Ken@epa.gov]; Samulski, Michael[samulski.michael@epa.gov]; McGartland, Al[McGartland.Al@epa.gov]; Rennert, Kevin[Rennert.Kevin@epa.gov]; Marten, Alex[Marten.Alex@epa.gov]; Griffiths, Charles[Griffiths.Charles@epa.gov]; Wolverton, Ann[Wolverton.Ann@epa.gov]; Shouse, Kate[Shouse.Kate@epa.gov]; Leggett, Cullen[Leggett.Cullen@epa.gov]; Yen, David[Yen.David@epa.gov]; Kopits, Elizabeth[Kopits.Elizabeth@epa.gov]
From: Laszlo.Windhoffer@faa.gov
Sent: Thur 12/3/2015 4:32:37 PM
Subject: Final ICAO CAEP CO2 CBA IPs
[CAEP.10.IP.Agenda Item.05.en GLOBAL-20151203_clean.docx](#)
[CAEP.10.IP.Agenda Item.05.en US-20151203_clean.docx](#)

Dear all,

Attached are the final papers. Redline versions to follow.

Thank you again for your support!

Laszlo Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)
Sent: Thursday, December 3, 2015 9:07 AM
To: 'Manning, Bryan' <manning.bryan@epa.gov>; Locke, Maryalice (FAA) <maryalice.locke@faa.gov>; Iovinelli, Ralph (FAA) <Ralph.Iovinelli@faa.gov>; dedoussi@mit.edu; Yutko, Brian (AEDT) <byutko@mit.edu>; Hileman, James (FAA) <James.Hileman@faa.gov>; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans <rjhans@mit.edu>; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David

<Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: RE: ACTION re: EPA Comments - Final Review: ICAO CAEP CO2 CBA IPs

Hi Bryan,

Yes that will be the final paragraph. We will shortly circulate the final redline and clean versions.

Thank you all for your time to review this paper!

László Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Manning, Bryan [<mailto:manning.bryan@epa.gov>]

Sent: Thursday, December 3, 2015 9:00 AM

To: Locke, Maryalice (FAA) <maryalice.locke@faa.gov>; Windhoffer, Laszlo (FAA) <Laszlo.Windhoffer@faa.gov>; Iovinelli, Ralph (FAA) <Ralph.Iovinelli@faa.gov>; dedoussi@mit.edu; Yutko, Brian (AEDT) <byutko@mit.edu>; Hileman, James (FAA) <James.Hileman@faa.gov>; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans <rjhans@mit.edu>; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: RE: ACTION re: EPA Comments - Final Review: ICAO CAEP CO2 CBA IPs

Ex. 5 - Deliberative Process

(just so everyone has the final version for their records)?

We appreciate all of FAA/MIT's efforts in working through our comments on the two IPs.

Thanks again,

Bryan

Bryan Manning

U.S. EPA Office of Transportation and Air Quality

Large Marine and Aviation Center

2000 Traverwood Drive

Ann Arbor, MI 48105

(ph) 734-214-4832 (fax) 734-214-4816

manning.bryan@epa.gov

From: maryalice.locke@faa.gov [<mailto:maryalice.locke@faa.gov>]

Sent: Wednesday, December 02, 2015 5:35 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Laszlo.Windhoffer@faa.gov;
Ralph.lovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu;
James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu;
rjhans@mit.edu; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley
<Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski,
Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>;
Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>;
Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann
<Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen
<Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth
<Kopits.Elizabeth@epa.gov>

Subject: RE: ACTION re: EPA Comments - Final Review: ICAO CAEP CO2 CBA IPs

I just noticed an extra “and” that should also be deleted, which is highlighted in blue below

Bryan et al,

Ex. 5 - Deliberative Process

Thanks,

Maryalice Locke

Aviation Emissions Division, AEE-300

Office of Environment and Energy

U.S. Federal Aviation Administration

800 Independence Avenue SW, Washington DC 20591

Phone: 202-267-3495

Email: Maryalice.Locke@FAA.gov

From: Manning, Bryan [<mailto:manning.bryan@epa.gov>]

Sent: Wednesday, December 02, 2015 3:39 PM

To: Windhoffer, Laszlo (FAA); Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth

Subject: EPA COMMENTS - Final Review: ICAO CAEP CO2 CBA IPs

Hello Laszlo,

Below are EPA's full set of comments on the latest versions of these CBA IPs. For the sake of time, I am just providing these comments in this email. Let me know if you need me to insert redline/strikeout out text into the two IPs.

*****COMMENTS*****

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

*****END of COMMENTS*****

Let us know if you have any questions.

Thank you,

Bryan

Bryan Manning

U.S. EPA Office of Transportation and Air Quality

Large Marine and Aviation Center

2000 Traverwood Drive

Ann Arbor, MI 48105

(ph) 734-214-4832 (fax) 734-214-4816

manning.bryan@epa.gov

From: Laszlo.Windhoffer@faa.gov [mailto:Laszlo.Windhoffer@faa.gov]

Sent: Tuesday, December 01, 2015 2:17 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Ralph.lovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski,

Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: Final Review: ICAO CAEP CO2 CBA IPs

Importance: High

Dear All,

As promised, attached are the updated versions of the global and US CO2 cost-benefit information papers that are intended for the upcoming CAEP/10 meeting.

Please note: as most edits were tentatively agreed during yesterday's telecon, and for clarity of what outstanding feedback required changes as of yesterday, these versions of the papers only show changes made to the papers since yesterday's versions.

Once again, it would be of great help if you could **please provide any final feedback by close of business tomorrow, Dec 2.**

Thank you

PS: There are still some misaligned tables, apologizes they're due to Windows vs Mac incompatibilities that are being fixed. Meanwhile I will follow-up this email with clean PDF versions that do not have this issue.

László Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)

Sent: Monday, November 30, 2015 5:33 PM

To: 'Manning, Bryan' <manning.bryan@epa.gov>; Iovinelli, Ralph (FAA) <Ralph.Iovinelli@faa.gov>; dedoussi@mit.edu; Yutko, Brian (AEDT) <byutko@mit.edu>; Locke, Maryalice (FAA) <maryalice.locke@faa.gov>; Hileman, James (FAA) <James.Hileman@faa.gov>; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans <rjhans@mit.edu>; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov) <Kopits.Elizabeth@epa.gov>

Subject: RE: Review of CBA IPs

Importance: High

Dear All,

Based on your feedback today, the few changes are being implemented. Please keep your eyes out for revised redline and clean versions arriving in your inboxes at some point tomorrow. We will try to get it in your hands as early as possible. I would like to ask for your **final review by close of business on Wednesday Dec 2.**

(Meanwhile you can review the versions circulated today.)

Thank you for your time today, we are very close!

László Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)

Sent: Monday, November 30, 2015 1:08 PM

To: 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth

(Kopits.Elizabeth@epa.gov)

Subject: RE: Review of CBA IPs

Dear All,

With hard by MIT over the holiday, redline and clean versions of the IPs are now available for quick review prior to our discussion today at 3pm (Eastern).

Please find attached the redline and clean versions of the US IP.

Redline and clean versions of the global IP are coming in subsequent emails.

Thank you

László Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

-----Original Appointment-----

From: Windhoffer, Laszlo (FAA)

Sent: Friday, November 27, 2015 12:36 PM

To: Windhoffer, Laszlo (FAA); 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)

Subject: Review of CBA IPs

When: Monday, November 30, 2015 3:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).

Where: See below for webex/telecon info.

Hi Everyone,

The intent of this call, on Monday 11/30 @ 3pm, is to review redline edits made to the CBA IPs since their 11/9 circulation. Both redline and clean versions will be circulated ahead of this call. This will be the last week to finalize the papers, therefore we need to aim to agree on all major concerns. Ideally we can do that, and thereby allowing the papers to be finalized during the call or shortly thereafter (i.e. the following day - Tuesday).

Thank you and speak to you on Monday.

Meeting number: Ex. 6 - Personal Privacy

Audio connection: 1-Ex. 6 - Personal Privacy
Call-in number

Conference Code: Ex. 6 - Personal Privacy

Meeting link:

<https://bahmeetings.webex.com/bahmeetings/j.php?MTID=m78bd81a8d70856b0a5d240b46690a857>

To: Manning, Bryan[manning.bryan@epa.gov]; Ralph.lovinelli@faa.gov[Ralph.lovinelli@faa.gov]; dedoussi@mit.edu[dedoussi@mit.edu]; byutko@mit.edu[byutko@mit.edu]; maryalice.locke@faa.gov[maryalice.locke@faa.gov]; James.Hileman@faa.gov[James.Hileman@faa.gov]; morrisab@mit.edu[morrisab@mit.edu]; pwolfe@mit.edu[pwolfe@mit.edu]; aashok@mit.edu[aashok@mit.edu]; rjhans@mit.edu[rjhans@mit.edu]; Sarofim, Marcus[Sarofim.Marcus@epa.gov]; Jantarasami, Lesley[Jantarasami.Lesley@epa.gov]; Davidson, Ken[Davidson.Ken@epa.gov]; Samulski, Michael[samulski.michael@epa.gov]; McGartland, Al[McGartland.Al@epa.gov]; Rennert, Kevin[Rennert.Kevin@epa.gov]; Marten, Alex[Marten.Alex@epa.gov]; Griffiths, Charles[Griffiths.Charles@epa.gov]; Wolverson, Ann[Wolverson.Ann@epa.gov]; Shouse, Kate[Shouse.Kate@epa.gov]; Leggett, Cullen[Leggett.Cullen@epa.gov]; Yen, David[Yen.David@epa.gov]; Kopits, Elizabeth[Kopits.Elizabeth@epa.gov]
From: Laszlo.Windhoffer@faa.gov
Sent: Tue 12/1/2015 7:17:24 PM
Subject: Final Review: ICAO CAEP CO2 CBA IPs
[CAEP.10.IP.Agenda Item.05.en_US-20151201_redline.docx](#)
[CAEP.10.IP.Agenda Item.05.en_GLOBAL-20151201_redline.docx](#)

Dear All,

As promised, attached are the updated versions of the global and US CO2 cost-benefit information papers that are intended for the upcoming CAEP/10 meeting.

Please note: as most edits were tentatively agreed during yesterday's telecon, and for clarity of what outstanding feedback required changes as of yesterday, these versions of the papers only show changes made to the papers since yesterday's versions.

Once again, it would be of great help if you could **please provide any final feedback by close of business tomorrow, Dec 2.**

Thank you

PS: There are still some misaligned tables, apologizes they're due to Windows vs Mac incompatibilities that are being fixed. Meanwhile I will follow-up this email with clean PDF versions that do not have this issue.

Laszlo Windhoffer

Federal Aviation Administration

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From: Windhoffer, Laszlo (FAA)
Sent: Monday, November 30, 2015 5:33 PM
To: 'Manning, Bryan' <manning.bryan@epa.gov>; Iovinelli, Ralph (FAA) <Ralph.Iovinelli@faa.gov>; dedoussi@mit.edu; Yutko, Brian (AEDT) <byutko@mit.edu>; Locke, Maryalice (FAA) <maryalice.locke@faa.gov>; Hileman, James (FAA) <James.Hileman@faa.gov>; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans <rjhans@mit.edu>; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov) <Kopits.Elizabeth@epa.gov>
Subject: RE: Review of CBA IPs
Importance: High

Dear All,

Based on your feedback today, the few changes are being implemented. Please keep your eyes out for revised redline and clean versions arriving in your inboxes at some point tomorrow. We will try to get it in your hands as early as possible. I would like to ask for your **final review by close of business on Wednesday Dec 2.**

(Meanwhile you can review the versions circulated today.)

Thank you for your time today, we are very close!

László Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)

Sent: Monday, November 30, 2015 1:08 PM

To: 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)

Subject: RE: Review of CBA IPs

Dear All,

With hard by MIT over the holiday, redline and clean versions of the IPs are now available for quick review prior to our discussion today at 3pm (Eastern).

Please find attached the redline and clean versions of the US IP.

Redline and clean versions of the global IP are coming in subsequent emails.

Thank you

László Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

-----Original Appointment-----

From: Windhoffer, Laszlo (FAA)

Sent: Friday, November 27, 2015 12:36 PM

To: Windhoffer, Laszlo (FAA); 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)

Subject: Review of CBA IPs

When: Monday, November 30, 2015 3:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).

Where: See below for webex/telecon info.

Hi Everyone,

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Thank you and speak to you on Monday.

Meeting number: Ex. 6 - Personal Privacy

Audio connection: Ex. 6 - Personal Privacy (US) *Call-in toll-free number;* Ex. 6 - Personal Privacy
Call-in number

Conference Code: Ex. 6 - Personal Privacy

Meeting link:

<https://bahmeetings.webex.com/bahmeetings/j.php?MTID=m78bd81a8d70856b0a5d240b46690a857>

Message

From: Ralph.Iovinelli@faa.gov [Ralph.Iovinelli@faa.gov]
Sent: 12/2/2015 7:23:47 PM
To: Samulski, Michael [samulski.michael@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]
Subject: FW: WP 59 "US Position on the ICAO Aeroplane CO2 Emissions Standard"
Attachments: CAEP 10 WP59_US ICAO Aeroplane CO2 Emissions StandardFINAL.docx

Gents --- this is the final final final version that is going to CAEP10. Done and done.

Ralph

From: Vanek, Adrienne (FAA)
Sent: Wednesday, December 02, 2015 2:05 PM
To: Maurice, Lourdes (FAA)
Cc: Scata, Donald (FAA); Iovinelli, Ralph (FAA); Holsclaw, Curtis (FAA)
Subject: FW: WP 59 "US Position on the ICAO Aeroplane CO2 Emissions Standard"

fyi

From: Vanek, Adrienne (FAA)
Sent: Wednesday, December 02, 2015 2:04 PM
To: Williams, Victoria M (FAA)
Cc: Scata, Donald (FAA) (Donald.Scata@faa.gov)
Subject: WP 59 "US Position on the ICAO Aeroplane CO2 Emissions Standard"

Hi Vickie, please find the final version of WP59 – US Position on the ICAO Aeroplane CO2 Emission Standard for final IGIA notification.

Please let us know if any questions or concerns.

Thank you,
Adrienne

Message

From: Laszlo.Windhoffer@faa.gov [Laszlo.Windhoffer@faa.gov]
Sent: 11/30/2015 8:55:33 PM
To: Wolverton, Ann [Wolverton.Ann@epa.gov]; Davidson, Ken [Davidson.Ken@epa.gov]; Manning, Bryan [manning.bryan@epa.gov]; Ralph.Iovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; Sarofim, Marcus [Sarofim.Marcus@epa.gov]; Jantarasami, Lesley [Jantarasami.Lesley@epa.gov]; Samulski, Michael [samulski.michael@epa.gov]; McGartland, Al [McGartland.Al@epa.gov]; Rennert, Kevin [Rennert.Kevin@epa.gov]; Marten, Alex [Marten.Alex@epa.gov]; Griffiths, Charles [Griffiths.Charles@epa.gov]; Shouse, Kate [Shouse.Kate@epa.gov]; Leggett, Cullen [Leggett.Cullen@epa.gov]; Yen, David [Yen.David@epa.gov]; Kopits, Elizabeth [Kopits.Elizabeth@epa.gov]
Subject: global (resend)
Attachments: CAEP.10.IP.Agenda Item.05.en_GLOBAL-20151130_redline.pdf

Pdf version of global redline attached.

*Laszlo Windhoffer
 Federal Aviation Administration
 T: +1-202-267-4741*

From: Wolverton, Ann [mailto:Wolverton.Ann@epa.gov]
Sent: Monday, November 30, 2015 3:34 PM
To: Davidson, Ken <Davidson.Ken@epa.gov>; Windhoffer, Laszlo (FAA) <Laszlo.Windhoffer@faa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Iovinelli, Ralph (FAA) <Ralph.Iovinelli@faa.gov>; dedoussi@mit.edu; Yutko, Brian (AEDT) <byutko@mit.edu>; Locke, Maryalice (FAA) <maryalice.locke@faa.gov>; Hileman, James (FAA) <James.Hileman@faa.gov>; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans <rjhans@mit.edu>; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>
Subject: RE: us only (resend)

Yes! The track changes of the global version ends with section 5.2.2. though.

From: Davidson, Ken
Sent: Monday, November 30, 2015 3:32 PM
To: Laszlo.Windhoffer@faa.gov; [Wolverton, Ann <Wolverton.Ann@epa.gov>](mailto:Wolverton.Ann@epa.gov); [Manning, Bryan <manning.bryan@epa.gov>](mailto:manning.bryan@epa.gov); Ralph.Iovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; [Sarofim, Marcus <Sarofim.Marcus@epa.gov>](mailto:Sarofim.Marcus@epa.gov); [Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>](mailto:Jantarasami.Lesley@epa.gov); [Samulski, Michael <samulski.michael@epa.gov>](mailto:samulski.michael@epa.gov); [McGartland, Al <McGartland.Al@epa.gov>](mailto:McGartland.Al@epa.gov); [Rennert, Kevin <Rennert.Kevin@epa.gov>](mailto:Rennert.Kevin@epa.gov); [Marten, Alex <Marten.Alex@epa.gov>](mailto:Marten.Alex@epa.gov); [Griffiths, Charles <Griffiths.Charles@epa.gov>](mailto:Griffiths.Charles@epa.gov); [Shouse, Kate <Shouse.Kate@epa.gov>](mailto:Shouse.Kate@epa.gov); [Leggett, Cullen <Leggett.Cullen@epa.gov>](mailto:Leggett.Cullen@epa.gov); [Yen, David <Yen.David@epa.gov>](mailto:Yen.David@epa.gov); [Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>](mailto:Kopits.Elizabeth@epa.gov)
Subject: RE: us only (resend)

Thanks, Laszlo. That should work for today's call.

Kenneth Davidson
 U.S. Environmental Protection Agency
 Office of Transportation and Air Quality/Region 9 Air Division
 75 Hawthorne St. (AIR-6)

San Francisco, CA 94105
 Phone: 415-972-3633
 FAX: 415-947-3583

From: Laszlo.Windhoffer@faa.gov [mailto:Laszlo.Windhoffer@faa.gov]

Sent: Monday, November 30, 2015 12:24 PM

To: Davidson, Ken <Davidson.Ken@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Manning, Bryan <manning.bryan@epa.gov>; Ralph.lovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: RE: us only (resend)

Looks like some isolated problems to a few people, working for others. Perhaps different versions of MS Office. Here is a pdf version of the track changes, hopefully that helps a bit?

Laszlo Windhoffer
Federal Aviation Administration
T: +1-202-267-4741

From: Davidson, Ken [mailto:Davidson.Ken@epa.gov]

Sent: Monday, November 30, 2015 3:20 PM

To: Wolverton, Ann; Windhoffer, Laszlo (FAA); Manning, Bryan; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth

Subject: RE: us only (resend)

I'm also experiencing the same problem Ann describes below.

Kenneth Davidson
 U.S. Environmental Protection Agency
 Office of Transportation and Air Quality/Region 9 Air Division
 75 Hawthorne St. (AIR-6)
 San Francisco, CA 94105
 Phone: 415-972-3633
 FAX: 415-947-3583

From: Wolverton, Ann

Sent: Monday, November 30, 2015 12:19 PM

To: Laszlo.Windhoffer@faa.gov; Manning, Bryan <manning.bryan@epa.gov>; Ralph.lovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: RE: us only (resend)

Thanks for resending. I am still having trouble viewing the track changes. I can open the document without the full redline showing but as soon as I try to see what has changed in the document it locks up. Anyone else still having this problem?

Ann

From: Laszlo.Windhoffer@faa.gov [mailto:Laszlo.Windhoffer@faa.gov]

Sent: Monday, November 30, 2015 3:13 PM

To: Manning, Bryan <manning.bryan@epa.gov>; Ralph.Iovinelli@faa.gov; dedoussi@mit.edu; byutko@mit.edu; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: FW: us only (resend)

Laszlo Windhoffer
Federal Aviation Administration
T: +1-202-267-4741

From: Yutko, Brian (AEDT)

Sent: Monday, November 30, 2015 3:04 PM

To: Windhoffer, Laszlo (FAA)

Subject: us only

Brian Yutko, PhD
Research Engineer
Massachusetts Institute of Technology
Department of Aeronautics and Astronautics
byutko@mit.edu
570.778.5983

To: Manning, Bryan[manning.bryan@epa.gov]; Ralph.lovinelli@faa.gov[Ralph.lovinelli@faa.gov]; dedoussi@mit.edu[dedoussi@mit.edu]; byutko@mit.edu[byutko@mit.edu]; maryalice.locke@faa.gov[maryalice.locke@faa.gov]; James.Hileman@faa.gov[James.Hileman@faa.gov]; morrisab@mit.edu[morrisab@mit.edu]; pwolfe@mit.edu[pwolfe@mit.edu]; aashok@mit.edu[aashok@mit.edu]; rjhans@mit.edu[rjhans@mit.edu]; Sarofim, Marcus[Sarofim.Marcus@epa.gov]; Jantarasami, Lesley[Jantarasami.Lesley@epa.gov]; Davidson, Ken[Davidson.Ken@epa.gov]; Samulski, Michael[samulski.michael@epa.gov]; McGartland, Al[McGartland.Al@epa.gov]; Rennert, Kevin[Rennert.Kevin@epa.gov]; Marten, Alex[Marten.Alex@epa.gov]; Griffiths, Charles[Griffiths.Charles@epa.gov]; Wolverton, Ann[Wolverton.Ann@epa.gov]; Shouse, Kate[Shouse.Kate@epa.gov]; Leggett, Cullen[Leggett.Cullen@epa.gov]; Yen, David[Yen.David@epa.gov]; Kopits, Elizabeth[Kopits.Elizabeth@epa.gov]
From: Laszlo.Windhoffer@faa.gov
Sent: Mon 11/30/2015 6:10:05 PM
Subject: RE: Review of CBA IPs
[CAEP.10.IP.Agenda Item.05.en GLOBAL-20151130_redline.docx](#)

Redline version of global IP is attached.

Laszlo Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)
Sent: Monday, November 30, 2015 1:09 PM
To: 'Manning, Bryan'; lovinelli, Ralph (FAA); 'dedoussi@mit.edu'; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); 'morrisab@mit.edu'; 'pwolfe@mit.edu'; 'aashok@mit.edu'; rjhans; 'Sarofim, Marcus'; 'Jantarasami, Lesley'; 'Davidson, Ken'; 'Samulski, Michael'; 'McGartland, Al'; 'Rennert, Kevin'; 'Marten, Alex'; 'Griffiths, Charles'; 'Wolverton, Ann'; 'Shouse, Kate'; 'Leggett, Cullen'; 'Yen, David'; 'Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)'
Subject: RE: Review of CBA IPs

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Laszlo Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)
Sent: Monday, November 30, 2015 1:08 PM

To: 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)
Subject: RE: Review of CBA IPs

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Thank you

László Windhoffer

*Federal Aviation Administration
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-----Original Appointment-----

From: Windhoffer, Laszlo (FAA)

Sent: Friday, November 27, 2015 12:36 PM

To: Windhoffer, Laszlo (FAA); 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)

Subject: Review of CBA IPs

When: Monday, November 30, 2015 3:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).
Where: See below for webex/telecon info.

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Audio connection: [Ex. 6 - Personal Privacy] *Call-in toll-free number;* [Ex. 6 - Personal Privacy]
Call-in number

Conference Code: [Ex. 6 - Personal Privacy]

Meeting link:

<https://bahmeetings.webex.com/bahmeetings/j.php?MTID=m78bd81a8d70856b0a5d240b46690a857>

To: Manning, Bryan[manning.bryan@epa.gov]; Ralph.lovinelli@faa.gov[Ralph.lovinelli@faa.gov]; dedoussi@mit.edu[dedoussi@mit.edu]; byutko@mit.edu[byutko@mit.edu]; maryalice.locke@faa.gov[maryalice.locke@faa.gov]; James.Hileman@faa.gov[James.Hileman@faa.gov]; morrisab@mit.edu[morrisab@mit.edu]; pwolfe@mit.edu[pwolfe@mit.edu]; aashok@mit.edu[aashok@mit.edu]; rjhans@mit.edu[rjhans@mit.edu]; Sarofim, Marcus[Sarofim.Marcus@epa.gov]; Jantarasami, Lesley[Jantarasami.Lesley@epa.gov]; Davidson, Ken[Davidson.Ken@epa.gov]; Samulski, Michael[samulski.michael@epa.gov]; McGartland, Al[McGartland.Al@epa.gov]; Rennert, Kevin[Rennert.Kevin@epa.gov]; Marten, Alex[Marten.Alex@epa.gov]; Griffiths, Charles[Griffiths.Charles@epa.gov]; Wolverton, Ann[Wolverton.Ann@epa.gov]; Shouse, Kate[Shouse.Kate@epa.gov]; Leggett, Cullen[Leggett.Cullen@epa.gov]; Yen, David[Yen.David@epa.gov]; Kopits, Elizabeth[Kopits.Elizabeth@epa.gov]
From: Laszlo.Windhoffer@faa.gov
Sent: Mon 11/30/2015 6:09:22 PM
Subject: RE: Review of CBA IPs
[CAEP.10.IP.Agenda Item.05.en GLOBAL-20151130 clean.docx](#)

Clean version of global IP is attached.

Laszlo Windhoffer

*Federal Aviation Administration
T: +1-202-267-4741*

From: Windhoffer, Laszlo (FAA)
Sent: Monday, November 30, 2015 1:08 PM
To: 'Manning, Bryan'; lovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)
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*Federal Aviation Administration
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Sent: Friday, November 27, 2015 12:36 PM

To: Windhoffer, Laszlo (FAA); 'Manning, Bryan'; Iovinelli, Ralph (FAA); dedoussi@mit.edu; Yutko, Brian (AEDT); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverton, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth (Kopits.Elizabeth@epa.gov)

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When: Monday, November 30, 2015 3:00 PM-4:30 PM (UTC-05:00) Eastern Time (US & Canada).

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Call-in number

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Meeting link:
<https://bahmeetings.webex.com/bahmeetings/j.php?MTID=m78bd81a8d70856b0a5d240b46690a857>

To: Ralph.lovinelli@faa.gov[Ralph.lovinelli@faa.gov]; dedoussi@mit.edu[dedoussi@mit.edu]; byutko@mit.edu[byutko@mit.edu]; Laszlo.Windhoffer@faa.gov[Laszlo.Windhoffer@faa.gov]; maryalice.locke@faa.gov[maryalice.locke@faa.gov]; James.Hileman@faa.gov[James.Hileman@faa.gov]; morrisab@mit.edu[morrisab@mit.edu]; pwolfe@mit.edu[pwolfe@mit.edu]; aashok@mit.edu[aashok@mit.edu]; rjhans@mit.edu[rjhans@mit.edu]; Sarofim, Marcus[Sarofim.Marcus@epa.gov]; Jantarasami, Lesley[Jantarasami.Lesley@epa.gov]; Davidson, Ken[Davidson.Ken@epa.gov]; Samulski, Michael[samulski.michael@epa.gov]; McGartland, Al[McGartland.Al@epa.gov]; Rennert, Kevin[Rennert.Kevin@epa.gov]; Marten, Alex[Marten.Alex@epa.gov]; Griffiths, Charles[Griffiths.Charles@epa.gov]; Wolverton, Ann[Wolverton.Ann@epa.gov]; Shouse, Kate[Shouse.Kate@epa.gov]; Leggett, Cullen[Leggett.Cullen@epa.gov]; Yen, David[Yen.David@epa.gov]; Kopits, Elizabeth[Kopits.Elizabeth@epa.gov]
From: Manning, Bryan
Sent: Wed 11/25/2015 3:25:59 PM
Subject: EPA Comments on FAA/MIT cost-benefit analysis (two draft info papers for CAEP/10)
[CAEP.10.IP.Agenda Item.05.en GLOBAL-20151109+EPA.docx](#)
[CAEP.10.IP.Agenda Item.05.en US-20151109+EPA.docx](#)

Hello Ralph, Laszlo, Jim, and Maryalice,

Ex. 5 - Deliberative Process

Let us know if you need to discuss any of the comments.

Thank you,

Bryan

P.S. I will be out Thursday and Friday, but I will be back in the office on Monday.

Bryan Manning

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manning.bryan@epa.gov

From: Ralph.Iovinelli@faa.gov [mailto:Ralph.Iovinelli@faa.gov]

Sent: Friday, November 20, 2015 1:39 PM

To: Manning, Bryan <manning.bryan@epa.gov>; dedoussi@mit.edu; byutko@mit.edu; Laszlo.Windhoffer@faa.gov; maryalice.locke@faa.gov; James.Hileman@faa.gov; morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans@mit.edu; Sarofim, Marcus <Sarofim.Marcus@epa.gov>; Jantarasami, Lesley <Jantarasami.Lesley@epa.gov>; Davidson, Ken <Davidson.Ken@epa.gov>; Samulski, Michael <samulski.michael@epa.gov>; McGartland, Al <McGartland.Al@epa.gov>; Rennert, Kevin <Rennert.Kevin@epa.gov>; Marten, Alex <Marten.Alex@epa.gov>; Griffiths, Charles <Griffiths.Charles@epa.gov>; Wolverton, Ann <Wolverton.Ann@epa.gov>; Shouse, Kate <Shouse.Kate@epa.gov>; Leggett, Cullen <Leggett.Cullen@epa.gov>; Yen, David <Yen.David@epa.gov>; Kopits, Elizabeth <Kopits.Elizabeth@epa.gov>

Subject: RE: Summary of Yesterday's Call: EPA & FAA/MIT cost-benefit analysis (two draft US info papers for CAEP/10)

Thanks for the summary, Bryan, and thanks to all for working these items. Please see some minor edits highlighted below. These seem like manageable items to complete. We would be remiss to not mention the timeline we are working with... All action items below need to be resolved by Monday, 30 November (acknowledging there is a US holiday next week). Adhering to this timeline would allow less than a week to make final touches and successfully enter into the ICAO submittal process by the drop dead date of Monday, 7 December. Please let me know if you have questions.

Best Regards,

Ralph Iovinelli

Manager, Emissions Division (AEE-300)

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From: Manning, Bryan [<mailto:manning.bryan@epa.gov>]

Sent: Friday, November 20, 2015 12:48 PM

To: dedoussi@mit.edu; Yutko, Brian (AEDT); Windhoffer, Laszlo (FAA); Iovinelli, Ralph (FAA); Locke, Maryalice (FAA); Hileman, James (FAA); morrisab@mit.edu; pwolfe@mit.edu; aashok@mit.edu; rjhans; Sarofim, Marcus; Jantarasami, Lesley; Davidson, Ken; Samulski, Michael; McGartland, Al; Rennert, Kevin; Marten, Alex; Griffiths, Charles; Wolverson, Ann; Shouse, Kate; Leggett, Cullen; Yen, David; Kopits, Elizabeth

Subject: Summary of Yesterday's Call: EPA & FAA/MIT cost-benefit analysis (two draft US info papers for CAEP/10)

Hello Laszlo, Jim, and Maryalice,

We appreciate everyone's time on the call yesterday. We thought it would be helpful to draft a summary (and/or action items) of yesterday's EPA & FAA/MIT call on the cost-benefit analysis. We think it will assist in keeping us all on the same page in regard to next steps, etc. See below. Let us know if we missed anything or mis-characterized something in the summary.

*****Summary*****

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

*****End of Summary*****

Let us know if you have any questions.

Thank you,

Bryan

P.S. Thank you Maryalice for already taking care of one of the action items, and emailing OAP and OP staff the CAEP paper(s) on the cost-effectiveness analysis.

Bryan Manning

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To: Jantarasami, Lesley[Jantarasami.Lesley@epa.gov]
Cc: Birnbaum, Rona[Birnbaum.Rona@epa.gov]; DeAngelo, Ben[DeAngelo.Ben@epa.gov]; Sarofim, Marcus[Sarofim.Marcus@epa.gov]; Audette, Lucie[audette.lucie@epa.gov]; Samulski, Michael[samulski.michael@epa.gov]; Yen, David[Yen.David@epa.gov]; Leggett, Cullen[Leggett.Cullen@epa.gov]; Maeroff, Bruce[Maeroff.Bruce@epa.gov]
From: Manning, Bryan
Sent: Thur 10/2/2014 8:48:37 PM
Subject: Latest Outline for Aircraft GHG Endang/ANPR (& deadline for 1st drafts)
Draft Proposed Rule Preamble_ANPR Outline to WG 10-2-14.docx

Hello Lesley,

Attached is the latest outline for the aircraft GHG endangerment/ANPR -- with names assigned to sections.

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Ex. 5 - Deliberative Process

Thank you,

Bryan

Ex. 5 - Deliberative Process

Bryan Manning

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